STATE OF MONTANA

TRAFFIC RECORDS ASSESSMENT

APRIL 19-23, 2004

National Highway Traffic
Safety Administration
Technical Assessment Team

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NOTES AND DISCLAIMERS

NOTE: The terms "Highway Safety Information System" and "Traffic Records System" are interchangeable. This Advisory uses the term, "Traffic Records System" to be consistent not only with its traditional use, but also with references in many of the publications and documents listed at the back of this Advisory, as well as its use in various pieces of legislation.

NOTE: The term “crash” is used in lieu of the term “accident” in this document. Many of the references cited in this document use the term “accident” as do many of the laws defining crashes or accidents at the state level. This advisory recommends that states begin to use the term “crash” and to reflect that change in legislation.

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EXECUTIVE SUMMARY

In early 2004 the Montana State Highway Traffic Safety Office (SHTSO) requested that NHTSA facilitate a traffic records assessment. NHTSA proceeded to assemble a team of traffic records professionals representing the various disciplines involved in a state traffic records system. Concurrently the SHTSO carried out the necessary logistical and administrative steps in preparation for the onsite assessment.

A team of professionals with backgrounds and expertise in the several component areas of traffic records data systems (crash, driver/vehicle, traffic engineering, enforcement and adjudication, and EMS/Trauma data systems) conducted the assessment April 19 to 23, 2004.

The scope of this traffic records assessment covered all of the data systems comprising a traffic records system. The purpose was to determine whether Montana's traffic records system is capable of supporting management's needs to identify the State's safety problems, to manage the countermeasures applied to reduce or eliminate those problems and to evaluate those programs for their effectiveness. One of the questions to be answered was, "Does Montana's traffic records system support the Montana State Highway Traffic Safety Office in its leadership role for highway safety in the State of Montana?" To its credit, the SHTSO is recognized as the primary source for safety data, and it does a commendable job of providing users with whatever it has available. Unfortunately, much of the data accessible to SHTSO is limited to crash records information; data from other systems is largely unavailable except in summary form. However, the SHTSO requires data from all of the data systems, individually and collectively, to prepare its annual Highway Safety Plan, to justify the expenditure of federal grant funds, to approve applications for projects, to respond to the public's need for answers to safety issues, to monitor the State's safety trends, and to support new highway safety legislative measures. The team found that the State of Montana's traffic records data systems currently are not operating at a level of effectiveness necessary to fully support the State's highway safety community in general and the State Highway Traffic Safety Office in particular.

There is a sense of a strong commitment to traffic records improvements mixed with frustration over recognized deficiencies, and evidence of serious efforts being undertaken with some components to upgrade these data systems. The Office of Court Administration plans to install a statewide case management system; the Motor Vehicle Division has a major systems upgrade in progress; the Montana Department of Transportation is developing a GIS/GPS roadway location identification methodology; and most of the state personnel interviewed testified to various initiatives underway in their respective agencies and organizations. However, these efforts are not being done through sufficient coordination with other stakeholders. Further, no single component of the system currently can adequately support data-driven decisions, nor are they capable of synergistically providing that support. A brief description of the major problems in each of the traffic records system components follows.

The crash records system is entirely dependent on paper crash reports. Although many agencies are collecting crash data electronically, the official crash records system at the Montana Highway Patrol (MHP) cannot accept electronic data because of the current location coding.

There is no statewide citation tracking system. Such a system is essential to evaluate the State's enforcement of traffic laws and the subsequent adjudication of the arrests for violations of those laws. It is especially critical in the identification of the State's impaired driving problem and the effectiveness of the State's impaired driving enforcement and adjudication efforts. The State is currently unable even to obtain an accurate count of the number of drunk driving arrests.

The driver records system lacks a number of features and capabilities. Of special concern is the inability to produce an accurate driver's prior history of traffic law convictions. This is due to a variety of circumstances such as convictions being withheld from some courts, unreadable input from some courts, non-recording of adverse histories of drivers coming from other states, a backlog of convictions to be posted, lack of a capability to receive electronically transmitted convictions from the courts, and the diversion of certain classes of convictions by the courts.

The roadway data systems, while containing much of the engineering information needed to maintain the State's highways, need attention in the areas of additional data and data integration. The major problem is the current use of three different methods for entering crash locations on the crash database. The Montana Department of Transportation (MDT) is currently developing a single location method for crashes using Global Positioning Satellite technology in combination with a Geographic Information System. Until this has been completed, the State's ability to identify and target locations for additional enforcement and engineering improvements will be problematic.

There is no statewide EMS/Trauma data collection system. Montana Administrative Rules mandates reporting of all EMS transports (medical and trauma) on a quarterly basis to the Montana Department of Public Health and Human Services (DPHHS). However, the EMS/Trauma registry system is in the embryonic stage of development at this time. Several attempts have been made to establish a pre-hospital data collection and analysis system but have not come to fruition. Planning and development of a statewide uniform run form and data collection system is currently underway, and a strategic planning meeting is planned in the near future to develop a long-range plan for the development of a comprehensive EMS/Trauma system.

Finally, none of the existing systems can be integrated to provide the broader set of data needed to conduct more scientific analyses and research into the State's overall safety problems. There has been no provision in the design of any of the data files for linkage with any of the other traffic records components.

The major recommendations to address these deficiencies and to improve Montana's traffic records system are as follows:

MAJOR RECOMMENDATIONS

Management & System Issues

- ❑ Create a two-tiered Traffic Records Coordinating Committee (TRCC). Obtain two levels of representation from each organization maintaining any component of the traffic records system: an executive level capable of committing resources and a working level with knowledge of the operations, requirements, and functionality of the component(s).

- ❑ Task the TRCC (as recommended in Section 4-A of this report) with the development of a Traffic Records Strategic Plan. This plan should:

    (1) Specify the requirements for and from each component of the traffic records system: crashes, citations, convictions, roads and streets, drivers, vehicles, and Emergency Medical Services/Trauma. Derive this information from the TRCC task level personnel, rather than from any external source.
    (2) Identify the goals for improvements for each of the traffic records system components.
    (3) Prioritize the goals, and recommend achievable dates for implementing each.
    (4) Secure commitments to the goals and the task schedules. Identify known and foreseen obstacles to each task that is questionable to be accomplished by the time desired. This includes identification of funding problems and possible solutions. Identify to the extent possible the costs of failure to accomplish each required task. Complete benefit/cost analyses as needed.
    (5) Identify the procedures for tracking progress and modifying the plan as tasks are either achieved, revised or dropped.

- ❑ Develop a data warehouse to serve as the inventory and repository of traffic record information. A first step should be to list the data sources and contact personnel for each major Traffic Records System component.

- ❑ Develop an online query tool for users to select and view crash data files of interest. This should be accomplished through a secure, password protected electronic web based access application that only authorized users can view crash data online.

- ❑ Encourage agencies responsible for citation, conviction, and other data sets to make sanitized data extracts available for use by the traffic safety community in Montana. At a minimum, Montana Department of Transportation (MDT) should be given access to the relevant records for use in problem identification and program evaluation.

- ❑ Conduct an analysis of training needs and develop and implement a training plan.

Roadway/Crash

- ❑ Convert the three location reference systems in the crash file to a single Global Positioning Satellite (GPS) coordinate system.

- ❑ Expedite the effort within MDT to implement GPS and Geographic Information System for location coding and location based analyses.

- ❑ Expedite the revision of Montana Accident Reporting System to accept crash reports electronically.

- ❑ Develop a top ten list of most common errors, inconsistencies, and omitted fields from the crash report. Circulate this list to all law enforcement asking for their assistance in reducing these reporting problems. Update and re-circulate the list on a six-month or yearly basis. Recognize departments that show noticeable improvement.

Driver

- ❑ Automate the driver file so that it performs for all Montana drivers all of the functions that characterize the Commercial Driver License Information System capabilities and provides full use of the Problem Driver Pointer System. This is admittedly a long-range effort which has been scheduled.

- ❑ Incorporate the driver histories, especially convictions for serious offenses, from prior states of record when licensing drivers from other states.

- ❑ Obtain from the courts or the Department of Health and Human Services the convictions for Minors in Possession and record the court suspensions until the license restorations occur.

- ❑ Assure receipt of all conviction information from all courts now being withheld or changed by some of the courts.

Citation

- ❑ Design and implement a centralized statewide citation tracking system containing information about a citation from "cradle to grave." Each record in the system should contain information about all actions pertaining to that citation including the disposition.

- ❑ Integrate all legacy systems containing data about arrests and dispositions with the Full Court and Justice Case Management Systems in order to insure data sharing among the courts, Motor Vehicles Division, and other stakeholders.

EMS/Trauma

- ❑ Pursue rapid development and implementation of a computerized, statewide EMS and Trauma data collection system to include linkages to other components of the traffic records system.

- ❑ Develop a detailed EMS and trauma data dictionary that provides a solid format for consistent and quality data. Include field length, field characteristics, and data element definition.

- ❑ Educate all stakeholders about the important benefits of EMS and trauma data.

- ❑ Become a member of the TRCC as recommended in Section 4-A of this report.

ACKNOWLEDGMENTS

The Traffic Records Assessment Team would like to acknowledge and thank Priscilla Sinclair, Traffic Safety Officer, State Highway Traffic Safety Office, for her support and able assistance in making this assessment possible.

Also, the team would like to recognize the contributions of Jack Williams of the State Highway Traffic Safety Office for his expert guidance, planning, logistical arrangements and support in making this assessment effort a success.

Kay Banks support during the preparation phase of this report was especially appreciated. The team wishes to recognize her patience, skills, cooperative spirit, and sense of humor.

The team would like to thank Clayton Hatch, team facilitator, for giving a national perspective to the assessment process and its goals. The team would also like to thank Richard Stewart, NHTSA Headquarters for his contributions.

The team would also like to thank the principal participants in the assessment for the time invested, the information they presented, and their candor in answering the many questions put forth by the team.

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INTRODUCTION

A complete traffic records program is necessary for planning (problem identification), operational management or control, and evaluation of a state's highway safety activities. Each state, in cooperation with its political subdivisions, should establish and implement a complete traffic records program. The statewide program should include, or provide for, information for the entire state. This type of program is basic to the implementation of all highway safety countermeasures and is the key ingredient to their effective and efficient management.

As stated in the *National Agenda for the Improvement of Highway Safety Information Systems*, a product of the National Safety Council's Traffic Records Committee:

> "Highway safety information systems provide the information which is critical to the development of policies and programs that maintain the safety and the operation of the nation's roadway transportation network."

A traffic records system is generally defined as a virtual system of independent real systems which collectively form the information base for the management of the highway and traffic safety activities of a state and its local subdivisions.

Assessment Background

The Traffic Records Assessment is a technical assistance tool that the National Highway Traffic Safety Administration (NHTSA), the Federal Motor Carrier Safety Administration (FMCSA) and the Federal Highway Administration (FHWA) offer to state offices of highway safety to allow management to review the state's traffic records program. NHTSA, FMCSA and FHWA have co-published a Highway Safety Program Advisory for Traffic Records which establishes criteria to guide state development and use of its highway safety information resources. The Traffic Records Assessment is a process for giving the state a snapshot of its status relative to that Advisory.

This assessment report documents the state's traffic records activities as compared to the provisions in the Advisory, notes the state's traffic records strengths and accomplishments, and offers suggestions where improvements can be made.

Methodology

The assessment process follows a "peer" review team approach. Working with the NHTSA Regional Office, the FHWA Division Office, FMCSA, and the State's Highway Safety Office, the NHTSA selected a team of individuals with demonstrated expertise in major highway safety program areas including: law enforcement, engineering, driver and vehicle services, injury surveillance systems, and general traffic records development, management, and use. Credentials of the assessment team are listed in the Team Credentials section of this report. The state officials who were interviewed during this assessment are listed in the List of Presenters section. Throughout the assessment, NHTSA, FMCSA, and FHWA representatives served as observers and are also listed in the Acknowledgments section.

Recommendations

The recommendations in the sections following may include suggestions on how they might best be achieved, based on the experience of team members and information provided.

Report Contents

In this report, the text following the "*Advisory*" excerpt heading was drawn from the Highway Safety Program Advisory for Traffic Records. The "*Advisory*" excerpt portion is in italics to distinguish it from the "Status and Recommendations" related to that section which immediately follows. The status and recommendations represent the assessment team's understanding of the state's traffic records system and their suggestions for improvement. The findings are based entirely on the documents provided prior to and during the assessment, together with the information gathered through the face-to-face discussions with the listed state officials. Recommendations for improvements in the state's records program are based on the assessment team's judgment.

It is recognized that, based on resources and other program priorities, the recommended improvements would be considered for implementation through a strategic plan established by the State Highway Traffic Safety Office in coordination with all affected state and local agencies.

The report will follow the outline in the Advisory and present the "*Advisory*" excerpt followed by the "Status" and "Recommendation" for each section and subsection of the Advisory. Section 1-A would present the text from the Advisory related to Crash Information followed by a statement of the findings and the recommendations for improvements to crash information. Section 1-B would repeat for Roadway Information, etc.

SECTION 1:
TRAFFIC RECORDS SYSTEM INFORMATION COMPONENTS

At the time of passage of the Highway Safety Act of 1966, state central traffic records systems generally contained basic files on crashes, drivers, vehicles, and roadways. Some states added data on highway safety-related education, either as a separate file or as a subset of the Driver File. As highway safety programs matured, many states added Emergency Medical Services (EMS) and Citation/Conviction Files. Additionally, some states and localities also maintain a Safety Management File, which consists of summary information from the central files useful for problem identification and safety planning.

As the capabilities of computer hardware and software systems increased and the availability of powerful systems has expanded to the local level, many states have adopted a more distributed model of data processing. For this reason, the model of a traffic records system needs to incorporate a view of information and information flow, as opposed to focusing on the files in which that information resides. Figure 1 displays this view of distributed data processing in a traffic records system.

Under this more distributed model, it doesn't matter whether data for a given system component are housed in a single file on a single computer or spread throughout the state on multiple local systems. What matters is whether or not the information is available to users, in a form they can use, and that this information is of sufficient quality to support its intended uses. Thus it is important to look at information sources. These information sources have been grouped to form the following major components of a traffic records system (see also Table 1):

- Crash Information
- Roadway Information
- Vehicle Information
- Driver Information
- Enforcement/Adjudication Information
- Injury Surveillance Information

Together, these components should provide information about places, property, and people involved in crashes and about the factors that may have contributed to the events described in the traffic records system. The system should also contain information that may be used in judging the relative magnitude of problems identified through analysis of data in the traffic records system. This should include demographic data (social statistics about the general population such as geographic area of residence, age, gender, ethnicity, etc.) to control for differences in exposure (normalization) and cost data for benefit/cost and cost effectiveness determinations. Performance level data should be included to support countermeasure management.

Further descriptions of these types of information are provided in the following sections.

Figure 1: Model of Distributed Data Processing in a Traffic Records System

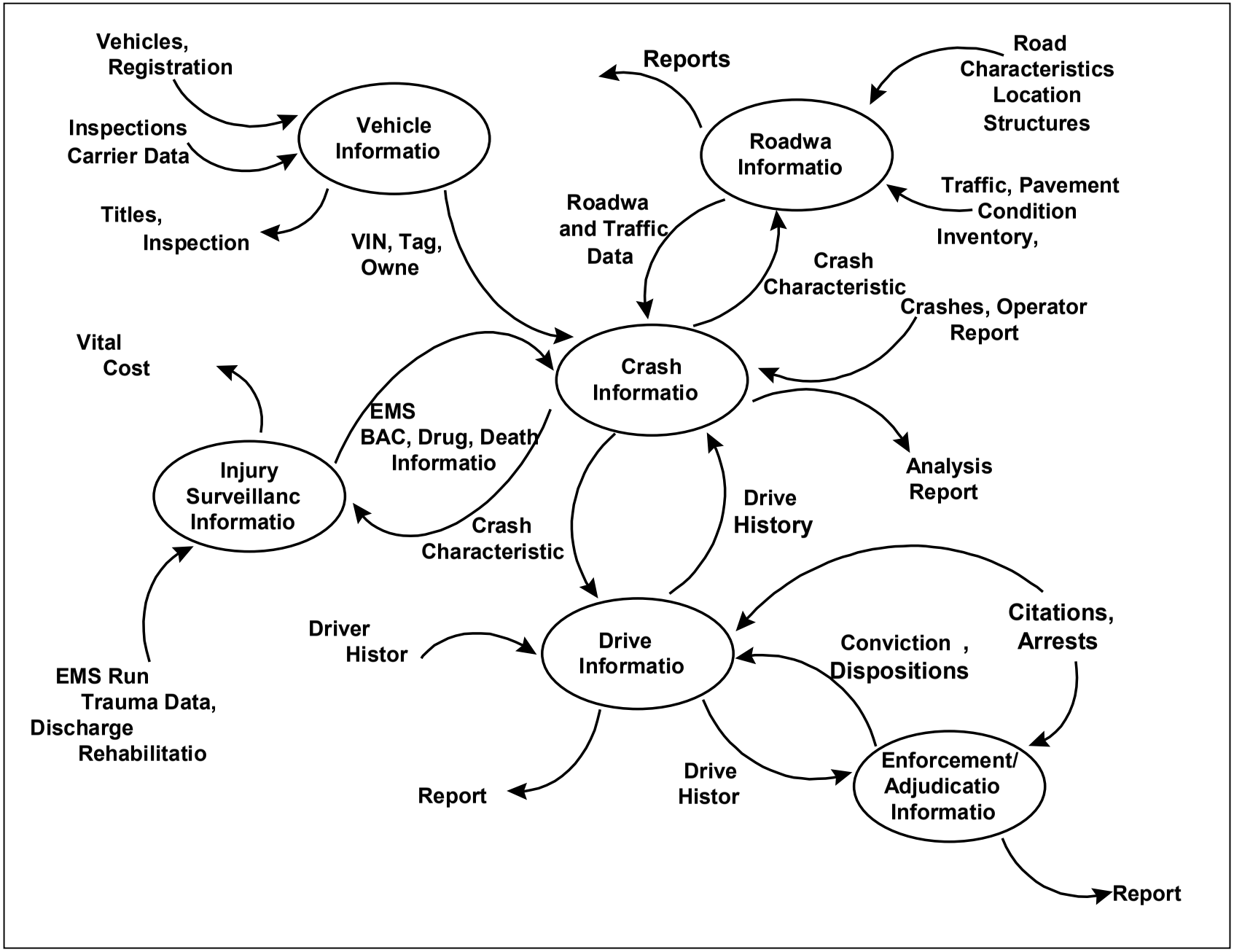

Table 1. Components of a Traffic Records System		
COMPONENTS		EXAMPLES
Crash		• Weather conditions and pavement • Illumination • Time of Day, Day of Week • Avoidance maneuvers • Violation of traffic law (speed, turns, failure to obey, reckless driving) • Number and severity of injuries or level of property damage • Number of vehicles involved • Manner of collision and speed • Object struck • Person type (driver, occupant, pedestrians) • Substance abuse • Safety device use
Injury Surveillance System		• EMS response time for driver/pedestrian/pedacyclist • Hospital assessment of injury severity • Hospital length of stay and cost • Rehabilitation time and cost
Roadway		• Location referencing system • Roadway character (jurisdiction, classification, surface, geometries) • Structures (bridges, tunnels) • Traffic control devices, signs, delineations, and markings • Roadside features (hardware, conditions, bike lanes, sidewalks, land use) • Rail grade crossings • Traffic volume and characteristics
Vehicle	All	• Type and configuration • VIN • Age/model year • Weight • Registration information/Plates • Defects • Owner information • Safety devices (type and condition)
	Commercial	• Carrier information • Hazardous materials/Placards • Inspection/Out of Service Records
Driver		• Age/DOB • Gender and Ethnicity • Experience, driver education • License status • Conviction history
Enforcement/Adjudication		• Citation tracking • Traffic case volume • Conviction • Sentencing • Case tracking

Section 1-A: Crash Information

The Crash Component documents the time, location, environment, and characteristics (sequence of events, rollover, etc.) of a crash. Through links to the crash-involved segments of Roadway, Vehicle, and Driver Information, the Crash Component identifies the roadways, vehicles, and people (drivers, occupants, pedestrians) involved in the crash and documents the consequences of the crash (fatalities, injuries, property damage, and violations charged). In addition to providing information on a particular crash, the Crash Component supports analysis of crashes in general and crashes within specific categories defined by: person characteristics (e.g., age or gender), location characteristics (e.g., roadway type or specific intersections), vehicle characteristics (e.g., condition and legal status), and the interaction of various components (e.g., time of day, day of week, weather, driver actions, pedestrian actions, etc.).

The Crash Component of the Traffic Records System should contain some basic information about every reportable motor vehicle crash on any public roadway in the state. Details of various data elements to be collected are described in a number of publications. The Model Minimum Uniform Crash Criteria (MMUCC) provides a guideline for a suggested minimum set of data elements to be collected for each crash. Additional information should be collected (as necessary) for crashes involving an injury or fatality to meet the requirements for tracking and analysis for the state, and other systems (e.g., the Fatality Analysis Reporting System [FARS], General Estimates System [GES]).

Status

By Montana Statute: "operators of motor vehicles that are in any way involved in an accident within the state in which a person is killed or injured or in which damage to the property of a person in excess of $500 is sustained shall immediately by the quickest means give notice of the accident to the local law enforcement agency with jurisdiction at the location the accident occurred." Law enforcement officers in Montana are required to report accidents in which a person is killed or injured or in which damage to property is in excess of $1,000. State law requires that these accidents be reported to the Montana Highway Patrol (MHP) on forms HQ1599 (for injury and fatal accidents) or HQ1599-S (for property damage only accidents) within 10 days. It was reported that some agencies such as the MHP report accidents timely, completely, and accurately but some agencies send in reports sporadically with inaccurate and missing data and must be reminded to send in reports for year end closing. Most accident reports are entered onto the official Crash File at MHP within six to eight weeks of the end of the year.

Vehicle operators that are involved in reportable crashes that are not investigated and reported by law enforcement officers shall report the crash to the MHP on a White Form that they can obtain from any law enforcement agency. These crashes are not entered onto the state crash file and it is unknown how many crashes are reported in this manner in a year.

Some agencies have the ability to complete crash reports at the crash scene on Mobile Data Terminals or Mobile Data Computers but must make hard copies of the reports to forward to the Montana Highway Patrol, Records Management Section (RMS) for data entry into the Montana

Accident Reporting System (MARS). The MARS cannot accept electronic crash reports due to problems in acceptance of the location code. The contractor for the new Computer Aided Dispatch (CAD) system and records management system is aware of this problem and is working on a solution to enable the transfer of crashes electronically. Until this problem is solved all law enforcement will have to send hard copies of the crash report to the MHP.

In 2002, there were approximately 25,000 crash reports sent to the MHP of which 23,529 were entered onto the State Crash File. The remainder of the crashes were reported on White Forms or private property accident reports that are not entered onto the crash file. All crash reports received are filed at the RMS in filing cabinets and retained there for three years.

The Accident Report was last revised in January of 2004 to accommodate the new corridor system established by the Montana Department of Transportation (MDT). This new system will reportedly allow electronic transfer of data by microwave from most of the I-90 and I-15 corridors and via the Internet from other locations in the State for entry onto the MARS. However, revisions to the MARS must be completed before the electronic transfer can begin. Grants were given to the Missoula Sheriffs Office (MSO), Billings Police Department (BPD), and the MHP to start collecting data electronically. The MHP and MSO developed their programs to transfer data on the same type of modem but BPD requires a different modem. This means that MDTs in patrol cars must have two modems when officers from different departments need to communicate.

There are currently three roadway location referencing systems to locate crashes within the state:

- Route, mile post for crashes on National Highways, State Primary and Secondary Routes.
- Link, node system (grid system) for crashes on city streets
- Township, Range and Section for crashes on off-system roads

The number of referencing systems and their complexity create problems in accurately locating crashes. It is expected that the addition of a Global Positioning System (GPS) field on the new crash report will improve locating crashes in the state but it is unknown how long it will be until GPS coordinates will be accepted into the MARS. Some agencies such as MHP already have the capability to capture GPS coordinates in approximately 90 patrol cars.

The Commercial Vehicle Supplement and Fatal Supplement form is forwarded to the MHP Motor Carriers Safety Assistance Program (MCSAP) Section for upload to SAFETYNET and to the FARS analyst for entry into FARS but the data are not entered into the MARS.

It was reported that the Montana Right to Privacy Law denies access to certain information contained in the report. The MHP replicates a sanitized version of MARS to MDT on a weekly basis. The MDT and SHTSO regularly supply ad hoc summary reports that are requested from government, the public or the private sector. All other requests for the crash file must be put in writing with reasons why the file is needed. The MHP forwards these requests to their Attorney General Representative for approval to release the file.

Recommendations

- ❑ Expedite the effort within MDT to implement GPS and GIS for location coding and location based analyses.
- ❑ Eliminate the approval process for the release of the "sanitized" crash database.
- ❑ Develop a web-based capability for interested parties to download the sanitized crash data file and/or to access an easy-to-use query tool for generating reports online based on the unrestricted crash data.
- ❑ Develop and deliver crash report training to law enforcement throughout the state.
- ❑ Expedite the revision of MARS to accept crash reports electronically.
- ❑ Pursue efforts to acquire crash report information from crashes investigated by Tribal Enforcement agencies.

Section 1-B: Roadway Information

Roadway information includes roadway location, identification, and classification, as well as a description of a road's total physical characteristics and usage, which are tied to a location reference system. Linked safety and roadway information are valuable components in support of a state's construction and maintenance program development.

Roadway information should be available for all public roads in the state whether under state or local jurisdiction. A location reference system should be used to link the various components of roadway information as well as other information sources (e.g., Crash/Environment information, EMS records) for analytical purposes.

Status

There are 69,451 miles of roads open to public travel in Montana, of which 12,943 miles are maintained and/or administered in some fashion by the Montana Department of Transportation (MDT). These roads consist of the Interstate system (1191 miles), the Secondary system (4688 miles), the Urban system (392 miles) and the State Highways (1174 miles).

To help manage this system of roads the MDT developed a server-based Transportation Information System (TIS). This system resides in an Oracle database and contains automated files on road characteristics, traffic volumes, road classification, and provides linkage with the pavement management system, the bridge management system, the congestion management system and the safety management system. The TIS also includes a Geographic Information System (GIS) database which contains a photo log of all on-system roads in the state.

The linkage is provided through the location reference system. The location reference system is currently reference post based, but MDT data managers have been discussing the benefits of migrating to an x,y coordinate location referencing system. It is anticipated that MDT will eventually migrate to a GPS based location referencing system as its primary (or supplemental) location referencing system. Over the past six years the MDT captured location coordinates on the 13,000-mile state system through the use of Global Positioning Satellite (GPS) devices. During this survey process they also collected road information by photo logging the same sections of highway and tying the location to the GPS coordinates. This information resides in the TIS. In addition to the traveler oriented U.S. and State route numbering systems, the MDT developed several route naming conventions to serve the different and varying needs of its internal users (including the Highway Patrol). These route naming conventions include the Departmental Route name which readily identifies the highway system upon which a road lies, and the Corridor Route name to which reference posting is tied.

However, the MDT currently maintains three location reference systems on the crash file:

1. Route, mile post on National Highways, State Primary and Secondary routes (the 13,000 mile state system),
2. Link-node system on City streets, and
3. Township, Range and Section on off-system roads.

The latter system is the least accurate of the location reference methods. The Safety Management Section of MDT uses data from the crash file along with traffic and road log data to generate a listing of high hazard locations on the state highway system. The MDT has a sophisticated method of identifying problem locations and setting a priority for their study and analysis. Crash data are provided yearly to the cities of Billings, Great Falls and Missoula, the three Metropolitan Planning Organizations in Montana. Data are provided on request to local engineering offices, planning offices, consultants and others.

One city interviewed for this assessment reported that they receive data only when requested it and in many cases do not have enough information to compete for a project to be included in the state's improvement program.

The MDT recently established a Standing Committee on Data Administration (SCODA) to develop, implement, and maintain policies and procedures regarding data management and quality throughout the Department. The Chairmanship is a committee elected position and is currently held by an ISD staff person. This committee may also promote and assist in setting priorities for recently identified unmet infrastructure data needs.

Recommendations

- Charge the newly established Standing Committee on Data Administration to accelerate the conversion of the location reference system to the GPS coordinate data residing in the TIS.

- Convert the three location reference systems in the crash file to a single GPS coordinate system.

- Establish accuracy and quality standards especially for newly collected road data.

- Provide other state agencies involved in traffic safety and local city and county engineering and safety offices with access to crash and roadway files.

Section 1-C: Vehicle Information

Vehicle information includes information on the identification and ownership of vehicles registered in the state. Data should be available regarding vehicle make, model, year of manufacture, body type, and miles traveled in order to produce the information needed to support analysis of vehicle-related factors which may contribute to a state's crash experience. Such analyses would be necessarily restricted to crashes involving in-state registered vehicles only.

This information should also be available for commercial vehicles and carriers which may be registered in other states, but which are licensed to use the public roadways in the state.

Status

The vehicle file is maintained by the Title and Registration Bureau of the Motor Vehicle Division (MVD) of the Montana Department of Justice. This Bureau is located in Deer Lodge, Montana which is approximately 60 miles from Helena. Records are generated through the County Treasurers' offices in the 56 Montana counties. Nearly a million registrations are processed yearly, and there are more than 2.5 million vehicle records.

Until quite recently title processing required nearly two months. Currently title transactions are routinely being handled the same day they are received. This has been achieved through a special project called TEAM 261—an ambitious, four-year project to redesign and update services related to Montana motor vehicle titles, registration and driver records. A formal 'business process reengineering' effort is now underway for vehicle registration. This same process will eventually be applied to driver records as well.

The scope of information on all vehicles, private and commercial, appears to meet the recommendations of the Advisory. The vehicle file is not linked with the driver file, but the TEAM 261 effort will establish both files as components of a client-based data system. However, this effort is not being coordinated with other components of the traffic records system.

Recommendation

- ❑ Become an active participant in a Statewide Traffic Records Coordinating Committee when such a committee is re-constituted according to the recommendation in Section 4-A of this report.

Section 1-D: Driver Information

Driver information includes information about the state's population of licensed drivers. It should include: personal identification, driver license number, type of license, license status, driver restrictions, convictions for traffic violations, crash history, driver improvement or control actions, and driver education data.

Driver information should also be maintained to accommodate information obtained through interaction with the National Driver Register (NDR) and the Commercial Driver License Information System (CDLIS) to enable the state to maintain complete driving histories and to prevent drivers from circumventing driver control actions and obtaining multiple licenses.

Status

The driver file is maintained by the Records and Driver Control Bureau of the Motor Vehicle Division (MVD) of the Montana Department of Justice. Although Montana has a population of 900,000, driver history information on approximately 1.5 million drivers supports the functions of license issuance and driver control. It contains the information specified in the Advisory, but there are voids in the data content and the ability to provide the level of service and responsiveness of a modern automated system.

The driver licensing file is generated by records keyed into an IDMS hierarchical database which stores the identification and descriptive data pertaining to a driver. That database does not have the functionality required for data interchanges with other systems and necessary updating of all of its entries. A separate VSAM (flat) file provides the capability to interact with the Commercial Driver License Information System (CDLIS), and that file permits acquisition of data which cannot be updated in the IDMS file directly from its source.

The Driver Control processes bring together the information which resides in the two systems cited above. The interface is described as “spongy,” and the system is not automated. This system is based on a software package known as “Extra!” which enables PC access to the mainframe files. It is a “manual system that is supported by automated records.”

The driver record system lacks a number of features and capabilities at present. Among them is the inability to receive information from a query to the Problem Driver Pointer System (PDPS) other than “Eligible” or “Not Eligible.” Driver history from another state cannot be retrieved through an American Association of Motor Vehicle Administrators Telecommunications Network (AAMVAnet) application. Even if it were, that information would not be stored in the Montana driver record. When convictions are received from another state, they are not used if the codes from the other state are either not a match with the Montana code or cannot be interpreted since there is no translation through the AAMVAnet Coding Dictionary.

The constraints listed above do not apply to CDLIS transaction processing, however, and commercial driver license record updates do obtain and retain histories from prior states of record.

Other problems with the driver records stem from a variety of circumstances: convictions withheld from some courts, unreadable input from some courts, lack of input of crash reports, the decision not to acquire and record the adverse histories of drivers coming from other states, a backlog of convictions to be posted, inability to receive electronic submissions from any source (especially from courts capable of sending data electronically), and the diversion of convictions for MIPs or Minor in Possession (of controlled substances) which are sent to the Department of Health and Human Services and not to the MVD (even a copy).

Convictions that are received from courts are on paper only even if the court has the capability of electronic transmissions. In one instance cited, a court "translated" all of its convictions to municipal complaints, rendering the posting of the convictions impossible because they could not be equated to valid citation references.

These deficiencies and others are thoroughly known to the Bureau Manager and the department. Firm plans, beginning July 1, 2004 are afoot to address the problems which can be overcome to the extent that a modern client-based data system can change the physical restraints now present. The project will take 3½ years to complete.

The driver file upgrade is a project to be undertaken by the legislated effort called TEAM 261 which has applied its initial efforts to eliminating the backlog of the vehicle titles and has begun revising the registration system. Those files are also maintained by the Motor Vehicle Division but are domiciled in Deer Lodge which is some 60 miles from Helena.

The upgraded data system, if totally perfect, will not address all of the deficiencies of the driver system, however. A detailed CDL Compliance Review was completed in August, 2003 which identifies 29 program improvements required and contains 23 pages of problem descriptions with target dates for corrections to be completed and provision to enter the actual dates when each correction has been completed. These problem areas apply to CDLs only and reflect the overall problems notwithstanding the less stringent requirements for non-CDL drivers. It is important to reiterate: the driver data managers are aware of the deficiencies and are engaged in the plans for their correction. Although the non-CDL records do not have the rigorous disciplines applied to them as the CDL records do, they should generally mirror the CDL processes.

The driver file contains the information necessary to participate in the National Driver Register (NDR) and the Commercial Driver License Information System (CDLIS). Participation in the PDPS is constrained as described above. Records on driver education and provisional licenses are not maintained. The MVD does not have administrative license revocation authority and is not a graduated licensing state. Montana is not a Non-Resident Violator Compact member and is not signatory to the Driver License Agreement.

The driver file is not linked with the vehicle file. It produces abstracts for court and enforcement inquiries. Within the constraints of the state's Driver Privacy Protection Act (DPPA), the driver file serves authorized users.

Imaging was recommended in a plan developed in 1995 which was tacit regarding the need to automate the driver and vehicle files even though it acknowledged the driver file to be a cumbersome manual card file contained in antiquated equipment. Another recommendation of the 1995 study was to establish a client-based system for drivers and vehicles. That is reported to be an undertaking for the vehicle data system which will lay the groundwork for the upgrading of the driver system in the TEAM 261 improvements.

Recommendations

- ❑ Automate the driver file so that it performs for all Montana drivers all of the functions that characterize the CDLIS capabilities and provides full use of the PDPS. This is admittedly a long-range effort which has been scheduled.

- ❑ Begin the process of translating the conviction information from other states in a manner consistent with the CDLIS processes using the AAMVAnet Coding Dictionary as soon as possible even using manual procedures.

- ❑ Incorporate the driver histories, especially convictions for serious offenses, from prior states of record when licensing drivers from other states.

- ❑ Coordinate plans for upgrading the driver license system with those components of a comprehensive statewide traffic records system that will be affected by the TEAM 261 effort, especially those involved in developing electronic crash and citation data collection systems.

- ❑ Obtain from the courts or the Department of Health and Human Services the convictions for MIPs and record the court suspensions until the license restorations occur.

- ❑ Assure receipt of all conviction information from all courts now being withheld or changed by some of the courts.

- ❑ Participate on the Traffic Records Coordinating Committee recommended in Section 4A of this report to assure that the driver file is appropriately interfaced with the following systems: Montana Accident Reporting System, citation tracking system, and the court case management system.

Section 1-E: Enforcement/Adjudication Information

Information should be available which identifies arrest and conviction activity of the state, including information which tracks a citation from the time of its distribution to an enforcement jurisdiction, through its issuance to an offender, and its disposition by a court. Information should be available to identify the type of violation, location, date and time, the enforcement agency, court of jurisdiction, and final disposition. Similar information for warnings and other motor vehicle incidents that would reflect enforcement activity are also useful for highway safety purposes.

This information is useful in determining level of enforcement activity in the state, accounting and control of citation forms, and monitoring of court activity regarding the disposition of traffic cases.

Status

There is no statewide citation tracking system containing information about enforcement and adjudication of all citations issued by all enforcement agencies. This lack of information prevents the State from evaluating and determining the effectiveness of enforcement countermeasures. There are few procedures in place to account for citations from the point of issuance to their disposition and to posting on the driver history file.

The Supreme Court Administrator's Office provides administrative oversight and support for all of the courts within the State of Montana. The court system consists of the Supreme Court, 22 judicial districts, District Courts, and Courts of Limited Jurisdiction. Courts of Limited Jurisdiction are comprised of 56 Justice of the Peace Courts and 83 city courts which are not defined as courts of record. There are 19 municipal courts and 56 district courts which are courts of record.

Montana does not have a centralized case management system connecting the various levels of courts. Each court has its own procedures for following cases from the point of the filing through prosecution to disposition.

The judicial branch is implementing two case management systems. The "Full Court" case management application is being implemented in the Courts of Limited Jurisdiction. Currently 77 of these 158 courts are using the "Full Court" application. The Justice Case Management System application (JCMS) is the one being implemented in the district courts. However, each court has the option of not using either the "Full Court" or JCMS applications.

The current practice in the Courts of Limited Jurisdiction does not provide written verification that a defendant has been advised of his/her rights. If a defendant appeals a guilty finding in a Court of Limited Jurisdiction to a District Court, he/she is entitled to a *trial de novo*. Prosecutors for the District Court want assurance that a defendant has been so advised.

Most traffic citations issued by law enforcement officers are submitted to the Courts of Limited Jurisdiction and are adjudicated by any of the 158 courts within the system. However, the State of Montana does not require law enforcement officers to use a standardized citation form to document violations of state statutes. Each law enforcement agency is using its own form to collect information that is necessary to address "local needs." However, most law enforcement agencies have adopted the form used by the Montana Highway Patrol, "Notice to Appear and Complaint."

Specific data elements about violations and convictions are located in databases maintained by individual law enforcement agencies, Courts of Limited Jurisdiction, District Courts, and the Montana Motor Vehicles Division (MVD). The most complete information about citations, violations, and dispositions may be found in municipalities that maintain their own records management systems and that share the information between the local law enforcement agencies and their Municipal Courts.

Recommendations

- Design and implement a centralized statewide citation tracking system containing information about a citation from "cradle to grave." Each record in the system should contain information about all actions pertaining to that citation including the disposition.

- Develop a uniform set of data elements for citations that identifies at a minimum the type of violation, location, date and time, the enforcement agency, and court of jurisdiction.

- Develop and implement uniform procedures and guidelines for Courts of Limited Jurisdiction for processing traffic citations insuring that defendants are advised of their rights.

- Integrate all legacy systems containing data about arrests and dispositions with the Full Court and JCMS case management systems in order to insure data sharing among the courts, MVD, and other stakeholders.

Section 1-F: Injury Surveillance System Information

With the growing interest in injury control programs within the traffic safety, public health, and enforcement communities, there are a number of local, state, and federal initiatives which drive the development of Injury Surveillance Systems (ISS). These systems typically incorporate pre-hospital (EMS), emergency department (ED), hospital admission/discharge, trauma registry, and long term rehabilitation databases to track injury causes, magnitude, costs, and outcomes. Often, these systems rely upon other components of the traffic records system to provide information on injury mechanisms or events (e.g., traffic crash reports).

This system should allow the documentation of information which tracks magnitude, severity, and types of injuries sustained by persons in motor-vehicle related crashes. Although traffic crashes cause only a portion of the injuries within any population, they often represent one of the more significant causes of injuries in terms of frequency and cost to the community. The ISS should support integration of the ISS data with police reported traffic crashes. The EMS run reports and roadway attributes are the first critical steps in the identification of a community's injury problem, and in turn, the identification of cost-effective countermeasures which can positively impact both the traffic safety and health communities.

The use of these data should be supported through the provision of technical resources to analyze and interpret these data in terms of both the traditional traffic safety data relationships and the specific data relationships unique to the health care community. In turn, the use of the ISS should be integrated into the injury control programs within traffic safety, and other safety-related programs at the state and local levels.

Status

Components of the State of Montana's Injury Surveillance System reside within the Department of Public Health and Human Services (DPHHS), Public Health and Safety Division. The Emergency Medical Services (EMS) and Injury Prevention Section manages Montana's Trauma System Program. The Vital Statistics Section resides within the DPHHS Operations and Technology Division which contains the Death Data. At this time there is not a mechansim or mandate for the collection of Hospital Discharge Data or Emergency Department Data.

Montana's EMS was created by the 54th Legislative Session in 1995, Official Code of Montana, Title 50, Health and Safety Code, Chapter 16. The EMS and Injury Prevention Section has seven full-time employees who oversee the leadership, direction, medical control, technical support, system assessment and regulatory control of 180 transport and non-transport firms, 3 roto-wing and 4 fixed-wing air medical transport units, licensing and certification, education and training guidelines, data collection and analysis, and injury prevention activities.

Pre-hospital care is provided throughout the State by approximately 180 Licensed EMS firms. Montana is using the National Registry Examination certification process for Paramedics (National Department of Transportation 1999 Curriculum), EMT-Intermediate (National

Department of Transportation 1984 Curriculum), EMT-Basic (National Highway Transportation 1994 Curriculum), and First Responders may obtain certification through the National Registry.

Montana Administrative Rules Chapter 30, Subchapter 2, §16.30.215, mandates reporting of all EMS transports (medical and trauma) on a quarterly basis to Montana DPHHS. At the present time there is not an established central repository for EMS data. The EMS registry system is in the embryonic stage of development at this time. Several attempts have been made to establish a pre-hospital data collection and analysis system but have not come to fruition. Planning and development of a statewide uniform run form and data collection system is currently underway. A uniform run sheet has been created for providers to use at their discretion. Upon review of the new bubble form there were two essential data elements not included on the form that document call type (trauma call) and a revised trauma score (vital signs and symptoms are on the form). Submission of the required EMS data is voluntary without penalty or disciplinary action levied on those providers that are non-compliant with reporting requirements. At this time there is no consistent or concise means to evaluate the current Montana EMS System. Statistical sampling is the methodology that is used at this time to estimate the pre-hospital care and resources in Montana.

A Montana Patient Care Record Dataset was established February 2004 and contains approximately 100 data elements. At the current time a comprehensive statistical representation of EMS in Montana cannot be seen and only a statistical sample can be used for assessing the state's EMS system's resources and emergency transport patterns. In 2000, it was estimated that the overall EMS transport volume for Montana was twenty-five thousand transports. An online networking program is accessed to determine appropriate routing of patients to hospitals that are not on by-pass or diversion status. This is a positive step and can be used to enhance trauma patient survivability and decrease mortality if maintained and updated on a real-time basis. A strategic planning meeting is scheduled in the near future to develop a long-range plan for the development of a comprehensive EMS system.

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Montana's 54th Legislative Session passed House Bill 0591 which created Montana's Trauma System in 1995. This legislation charged the Montana's DPHHS to establish a trauma advisory committee, regional advisory councils, trauma facility designation/verification process and requirements, trauma patient treatment protocols and a data collection system and repository for trauma patient care records. Designated/verified trauma facilities are mandated to report trauma patient data that meet case inclusion criteria (ICD-9DM 800.00 – 959.9) quarterly to the State Trauma Registry. Montana has six Level II American College of Surgeons-verified trauma facilities and four Level III trauma facilities. It was reported that there are fifty-seven hospitals in Montana. However, not all hospitals within the state are mandated to report trauma data to the State Trauma Registry. This sets up the potential for not capturing the care record of a major trauma victim who that is treated at a non-designated/verified trauma center.

Montana's Trauma Program has adopted Digital Innovation's Collector Trauma Reporting Software application. There is not an established state Trauma Registry System in Montana. A Strategic Planning Meeting is to be scheduled in the near future to discuss and develop a process to establish a state Trauma Registry System as the central repository. A trauma data set has been

created. However a detailed data dictionary (field length, field characteristic, and data element definition) has not been created. A comprehensive picture of the trauma system is not available for policy and resource decisions at the State and local level. Statistical sampling is the methodology that is used at this time to estimate the trauma care and trauma resources in Montana. In 2000, it is reported that approximately eight thousand trauma cases occurred in Montana.

There are three Regional Advisory Councils that oversee the State's EMS and Trauma System. However, there is not an organized process for EMS protocols for routing a trauma patient to the appropriate facility for definitive trauma care. Diversion and By-Pass of hospitals is an issue in Montana. An electronic tracking system alerts EMS providers and hospitals of what facilities are experiencing an overload of patients and are routing EMS to alternative facilities. This system is an excellent tool but should have written routing and patient treatment protocols to insure proper routing of the trauma patient to the appropriated trauma facility while receiving appropriate interventions per national standards.

Hospital discharge and emergency department data are not collected. The Montana Hospital Association collects hospital discharge data from several hospitals. These data are not readily available and do not represent a comprehensive EMS or trauma system. There is not an established state hospital discharge data repository. The DPHHS Section of Vital Statistics is the repository for death certificate data. In addition, the Emergency Medical Services and Injury Prevention Section develops and maintains programs designed to reduce injuries. The Injury Prevention staff utilizes a commercial probabilistic data linking software application to link sample population data for statistical reports that are used to reflect and promote injury prevention activities and outcomes.

All of these programs and departments are maintained in the DPHHS and are in the primary phase of data collection and analysis related to traffic safety and injury prevention activities.

Recommendations

- ❑ Pursue rapid development and implementation of a computerized, statewide EMS and Trauma data collection system to include linkages to other components of the traffic records system.

- ❑ Develop a detailed EMS and trauma data dictionary that provides a solid format for consistent and quality data. Include field length, field characteristics, and data element definition.

- ❑ Pursue eligible State and Federal highway traffic safety funding opportunities.

- ❑ Provide information and education related to traffic safety records and fatality data at EMS and Trauma Advisory Committee meetings and stakeholder meetings.

- ❑ Educate all stakeholders about the important benefits of EMS and trauma data.

- Provide the EMS providers and trauma facilities with an avenue to utilize their data and make a difference in their profession and patient care modalities.

- Pursue the inclusion of non-designated hospitals that treat or transfer trauma patients into the EMS and Trauma Systems and data collection activities. This will assist in the capture of data about trauma patients that are not transported to a designated trauma center for care and may be missed due to exclusion from the system. Inclusion of these hospitals will enhance the communication and collaboration for a comprehensive, inclusive Montana State Injury Prevention and Surveillance System, and efficient quality care for the citizens of Montana.

Section 1-G: Other Information

The Traffic Records System should acknowledge the importance of, and incorporate where feasible, other types of information from the state and local level which will be useful in the identification of traffic safety problems and the evaluation of countermeasures. These supporting components may include:

- ❑ *Geographic Information Systems (GIS) and Global Positioning System (GPS) data.*
- ❑ *Insurance data (carrier, policy number, expiration date, claims cost).*
- ❑ *Safety Program Evaluation data.*
- ❑ *Data specifically required by state or Federal programs (e.g., the Transportation Equity Act for the 21st Century [TEA-21]).*
- ❑ *Demographic data (data on the state's population including gender, age, rural/urban residence, ethnicity) sufficient to be used in normalizing crash data to the state's general population.*
- ❑ *Behavioral data (e.g., occupant protection usage).*
- ❑ *Attitude/perception/knowledge data (e.g., telephone surveys, focus groups).*
- ❑ *Economic loss data (e.g., medical, insurance cost, workers' compensation, lost productivity).*
- ❑ *Inventory - Each state should have in place procedures that result in the compilation of an inventory of state and local information sources. This inventory should include information on the source, ownership (contact agency/person), quality, and availability of these data from each information source.*
- ❑ *Performance data - Performance level data, as part of a traffic records system, are those measures relating to an ongoing or proposed countermeasure that addresses a crash problem. They can include number and types of citations and convictions, number or percent of drivers and occupants using occupant protection, average Blood Alcohol Concentration (BAC) levels, average speeds, percent of injured receiving EMS response, recidivism rates for past offenders/crash-involved drivers, highway countermeasures (e.g., breakaway signs), etc.*
- ❑ *Cost data - Cost data consist of dollar amounts spent on countermeasure programs, together with the costs of fatalities, injuries, and property damage crashes. The National Highway Traffic Safety Administration (NHTSA), the National Safety Council (NSC), and other national and state agencies have published cost data for use by the states. NHTSA has also made easy-to-use cost modeling software available. In addition, specific local*

costs can be accumulated through injury surveillance systems or other means of collecting treatment costs and outcomes.

- *ITS data – Intelligent Transportation Systems (ITS) is becoming a major force in the area of traffic mobility and traffic safety. ITS also has an enormous potential for capturing traffic safety data. The first area where ITS can facilitate the capture of traffic safety data concerns documenting crash instances. This can be accomplished through video monitoring systems where data are archived. The archived data can be reviewed to ascertain where a crash report was completed on the date and time of the crash observed. The archived data can also be used to corroborate data contained in the crash report such as date, time, crash location, vehicle type(s), and time of arrival of emergency vehicle(s).*

  ITS can also be used to record normalizing data such as vehicle counts (ADT) by vehicle type, by location, time of day, and day of week. Normalizing data essential for data analysis where comparisons are made across time and across geographical locations.

Status

Geographic Information Systems (GIS) and Global Positioning Satellite (GPS) data.
Currently there are three roadway referencing systems to locate crashes within the state:

- Route, mile post for crashes on National Highways, State Primary, and Secondary Routes
- Link, node system (grid system) for crashes on city streets
- Township, Range and Section for crashes on off-system roads

Recently the Montana Department of Transportation (MDT) photo logged and gathered GPS coordinates on 69,000 miles of roads in Montana and is using the GPS coordinates in their GIS system.

Insurance data (carrier, policy number, expiration date, claims cost).
There is no state insurance file. The state crash reports have fields for the insurance carrier and policy number but this information is not loaded to the crash file. Insurance company data are therefore not available for use in analyses such as the cost of claims resulting from crashes.

Safety Program Evaluation data.
The State Highway Traffic Safety Office staff has the skills to perform safety program evaluations but is doing none at this time.

Data specifically required by state or Federal programs (e.g., the Transportation Equity Act for the 21st Century [TEA-21]).
The MDT reported they can get the data that they need. They can do hot spot analyses, severity index, severity rate, statistics and Ad Hoc searches.

Demographic data (data on the state's population including gender, age, rural/urban residence, ethnicity) sufficient to be used in normalizing crash data to the state's general population.
Montana's Department of Commerce maintains demographic and census data. These data are available on its web site and are adequate for SHTSO requirements.

Behavioral data (e.g., occupant protection usage).
The state crash report has fields to collect occupant protection usage. The Montana Highway Patrol Annual Report includes the results of SHTSO annual observational studies of seat belt usage by occupants on different classes of roads. Montana does not have a primary occupant protection law but constantly exceeds the national average. In 2003 the Statewide usage rate was 79.5 percent.

Attitude/perception/knowledge data (e.g., telephone surveys, focus groups).
Montana conducts very few surveys or focus groups that deal with transportation safety. One survey was the Montana Injury Prevention Survey conducted by the Critical Illness and Trauma Foundation and the regional Trauma Committee. The survey looked at barriers in injury prevention. Out of 182 surveys sent out, 21 percent were returned. Survey results indicated injury prevention was headed in the proper direction, funding is a problem, and enforcement was the best tactic to gain safety belt usage.

Economic loss data (e.g., medical, insurance cost, workers' compensation, lost productivity).
Economic loss has not been looked at extensively. It was one item to be looked at in the Linking Project in 2003, but time did not permit a study. Currently formulas and NHTSA Guidelines are used to estimate loss. The crash records system working group hopes to do more in this area. The data linking project in Yellowstone County did provide some cost data.

Inventory data.
There is none at this time.

Performance data.
Program coordinators in the SHTSO are responsible for monitoring grants in their areas of expertise. This monitoring includes performance data. With the exceptions of using BAC data from the State Medical Examiner and demographic data from the Department of Commerce, the performance data do not appear to go beyond the basics of measuring productivity. Statistical data analyses using accepted methodologies are apparently not performed on a routine basis by the SHTSO.

Cost data.
The only cost analysis performed has been done by the data linking project in Yellowstone County.

ITS data
There are no ITS-derived data for normalizing other data within the Transportation Information System (TIS) database at MDT.

Recommendations

- Expedite the effort within MDT to implement GPS and GIS for location coding and location-based analysis.

- Develop a data warehouse to serve as the inventory and repository of traffic record information. A first step should be to list the data sources and contact personnel for each major Traffic Records System component.

- Develop program evaluations to include statistical data analysis, Bayesian evaluation, and use of normalizing factors.

SECTION 2:
INFORMATION QUALITY

A state's traffic records information should be of an acceptable level of quality to be useful and should be maintained in a form that is readily accessible to users throughout the state. The quality of information in a state's traffic records system is determined by the following characteristics:

- ❑ Timeliness
- ❑ Consistency
- ❑ Completeness
- ❑ Accuracy
- ❑ Accessibility
- ❑ Data integration with other information

The definition of each of these attributes and their relative significance may vary for each information area (crash, roadway, etc.). For example, while a high degree of timeliness may be crucial for entry of actions in a driver history database, it may not be as significant for certain roadway related data. Also, while the various information sources may exist separately, these sources should be easily tied together. This integration can eliminate the need to duplicate data, thus reducing data collection, entry, and storage costs.

2-A: Crash Information Quality

- *Timeliness – The information should be available within a time frame to be currently meaningful for effective analysis of the state's crash experience, preferably within 90 days of a crash.*

- *Consistency – The information should be consistent with nationally accepted and published guidelines and standards, for example:*

  - *Model Minimum Uniform Crash Criteria (MMUCC).*
  - *Manual on Classification of Motor Vehicle Traffic Accidents, 6th Edition, ANSI D16.1-1996.*
  - *Data Element Dictionary for Traffic Records Systems, ANSI D20.1, 1993.*
  - *EMS Data Dictionary (Uniform Pre-Hospital Emergency Medical Services Data Conference).*

  The information should be consistent among reporting jurisdictions; i.e., the same reporting threshold should be used by all jurisdictions and the same set of core data elements should be reported by all jurisdictions.

- *Completeness – The information should be complete in terms of:*

  - *All reportable crashes throughout the state are available for analysis.*
  - *All variables on the individual crash records are completed as appropriate.*

- *Accuracy – The state should employ quality control methods to ensure accurate and reliable information to describe individual crashes (e.g., feedback to jurisdictions submitting inaccurate reports) and the crash experience in the aggregate (e.g., edit checks in the data entry process).*

- *Accessibility – The information should be readily and easily accessible to the principal users of these databases containing the crash information for both direct (automated) access and periodic outputs (standard reports) from the system.*

- *Data Integration – Crash information should be capable of linkage with other information sources and use common identifiers where possible and permitted by law.*

Status

Timeliness

Completed crash reports are required to be forwarded to the Records Management Section (RMS) Montana Highway Patrol (MHP) within 10 days after completing the investigation. RMS staff reported that there are often lags as long as six months between the date of the crash and the date it is received. At year-end RMS staff call law enforcement agencies that appear to be delinquent in reporting crashes to remind them to forward the crash reports. Once notified, the

agencies usually respond and the RMS is able to close the crash file within 7 weeks of the end of the year.

Crash data entry into related systems, notably the Motor Carrier Management Information System (MCMIS)/SafetyNet system for motor carrier crashes, and the Fatal Analysis and Reporting System (FARS) has been very timely. It was reported that motor carrier involved crashes are reported to MCMIS in an average of 37 days and that most fatal crashes are entered into FARS by the 15th of the month following the crash.

Consistency
The MMUCC Guidelines, ANSI D-16.1, and National Governors Association (NGA) truck crash elements were used as references in the latest revision of the accident/crash report forms. The MMUCC guidelines were the hardest to adopt and the new forms are approximately 90 percent MMUCC compliant.

Consistency in reporting varies greatly amongst law enforcement agencies. Reportedly the MHP, who investigate and report 50-55 percent of all crashes, is the most consistent. Small police departments and sheriff's offices that investigate and report very few crashes are less consistent.

Completeness
There is no way to verify that all reportable crashes are being received by the MHP. The MHP RMS staff are confident that most crash reports are being sent to them with the exception of Tribal Police investigated crashes.

In 2002 approximately 1,500 of the approximately 25,000 crashes received by the MHP were not entered onto the crash file. Crashes received on White Forms (operator reports) are not entered into the crash file. Some crashes meeting the $1000 threshold are diverted by some police to an operator-report which consequently is not entered into the crash file.

Completeness of the police reports is also a problem. Accident reports from the MHP usually have all required data fields completed. Accident reports received from police and sheriff departments are less complete.

Accuracy
Accuracy of the crash data is a problem statewide. The MHP RMS staff reported that almost all reports they receive have at least one data field error that needs to be changed, and many have several errors that must be corrected. The RMS staff corrects many of these errors themselves and then notifies the reporting department of the changes. If the RMS staff is unable to make corrections the report is returned to the department for correction.

As with completeness and consistency, crash reports submitted by the MHP are more accurate than from other agencies. This is due to the additional crash report training received by MHP and the quality control checks built into the supervisory reviewing process.

Accessibility
It was reported the crash data that was available was very accessible in Montana. Most requests for data or Ad Hoc reports are forwarded to the SHTSO. The data analyst at the SHTSO uses custom software to retrieve data from the crash file that is replicated from MHP to the Montana Department of Transportation (MDT). The Safety Management Engineer retrieves data from the replicated crash files and sends them yearly on CD to the Traffic Divisions of the cities of Billings, Great Falls, and Missoula.

Crash data users or potential users are not informed of what crash data are available.

Data Integration
The crash database at the MHP RMS does not integrate with any other databases in the traffic records system. However, it contains data to enable linkage.

Within MDT there are linkages with the Transportation Information System, the Traffic Volume Data Base and the replicated crash file that result in the identification of areas with unusual crash experience.

Recommendations

- ❑ Develop a top ten list of most common errors, inconsistencies, and omitted fields from the crash report. Circulate this list to all law enforcement asking for their assistance in reducing these reporting problems. Update and recirculate the list on a six-month or yearly basis. Recognize departments that show noticeable improvement.

- ❑ Enforce compliance with the law regarding law enforcement reporting crashes.

- ❑ Expand the role of the Traffic Records Coordinating Committee recommended in Section 4A of this report to include promotion of data integration and to publicize data resources available for user needs among the various components of the Traffic Records System.

2-B: Roadway Information Quality

- *Timeliness – The information should be updated as required to produce valid analysis. This implies that changes on the roadway (e.g., construction, sign improvements) should be available for analysis as soon as the project is completed.*

- *Consistency – The same data elements should be collected over time and for various classes of roadways.*

- *Completeness – The information should be complete in terms of the miles of roadway, the trafficway characteristics, the highway structures, traffic volumes, traffic control devices, speeds, signs, etc.*

- *Accuracy – The state should employ methods for collecting and maintaining roadway data that produces accurate data and should make use of current technologies designed for these purposes.*

- *Accessibility – The information should be readily and easily accessible to the principal users of these databases containing the roadway information for both direct (automated) access and periodic outputs (standard reports) from the files.*

- *Data Integration – In order to develop viable traffic safety policies and programs, the roadway information must be linked to other information files through common identifiers such as location reference point. Integration should also be supported between state and local systems.*

Status

Through the standards to be established by MDT's Standing Committee on Data Administration (SCODA), it is anticipated the quality of roadway data will be improved. The various files that comprise the Transportation Information System (TIS) in the Montana Department of Transportation (MDT) are in varying degrees of quality and are dependent on the method of collection and level of training of the collectors of the data.

Overall the timeliness, consistency, accessibility (in-house) and data integration of files in MDT is good. Accuracy and completeness are areas of concern that are being addressed as mentioned above.

Recommendation

- Support the work of the Standing Committee on Data Administration.
- Add more roadway characteristic data elements in the roadway electronic database, such as horizontal and vertical alignments, and in-slopes.

2-C: Vehicle Information Quality

- *Timeliness – The information should be updated at least annually.*
- *Consistency – The same data elements should be collected over time and they should be consistent with the data elements contained in the other components of the traffic records system.*
- *Completeness – The information should be complete in terms of the vehicle ownership, registration, type, VIN, etc. Information on vehicle miles traveled (VMT) by type or class of vehicle should be available. For commercial vehicles, completeness also involves collection and availability of standard data elements (such as the NGA elements, a set of data developed and recommended by the National Governors' Association for collection of data from crashes involving commercial vehicles).*
- *Accuracy – The state should employ methods for collecting and maintaining vehicle data that produces accurate data and should make use of current technologies designed for these purposes.*
- *Accessibility – The information should be readily and easily accessible to the principal users of these databases containing the vehicle information for both direct (automated) access and periodic outputs (standard reports) from the system, within the parameters of confidentiality.*
- *Data Integration – Vehicle information should be capable of linkage with other information sources and use common identifiers (e.g., VIN, Crash Reports Number, etc.) where possible and permitted by law.*

Status

Timeliness
The file is updated and maintained daily.

Consistency
The file appears to contain the data content recommended by the Advisory, but the absence of documentation identifying the file content prevented a comparison.

Completeness
The file satisfies titling and registration functions.

Accuracy
No specific information available.

Accessibility
The file information is accessible to authorized users.

Data Integration
The file is not linked with the driver file or the crash data file.

Recommendation

- ❑ Become a member of the Statewide Traffic Records Coordinating Committee recommended in Section 4-A of this report to insure that MVD systems plans and upgrades are developed in coordination with all other highway safety information stakeholders.

2-D: Driver Information Quality

- *Timeliness – Routine license issuance information should be updated at least weekly. Adverse actions (license suspension, traffic conviction) should be posted daily.*

- *Consistency – Information maintained on the state's Driver File should be compatible for exchange with other driver-related systems such as the National Driver Register (NDR), the Commercial Driver License Information System (CDLIS), and other applications for interstate exchange of driver records, especially those facilitated via the American Association of Motor Vehicle Administrators Telecommunications Network (AAMVANet).*

- *Completeness – The information should be complete in terms of data elements (e.g., unique personal identifiers and descriptive data such as name, date of birth, gender) and complete in terms of all prior driving history, especially adverse actions received from other states either while licensed elsewhere or while driving in other states.*

- *Accuracy – The state should employ methods for collecting and maintaining driver information which makes use of current technologies (e.g., bar codes, magnetic stripes).*

- *Accessibility – The information should be readily and easily accessible to the principal users of these databases, including driver licensing personnel, law enforcement officers, the courts, and for general use in highway safety analysis. The information should be available electronically for individual record access, and technology should be available to support automated downloading of summary data sets for analytical purposes, providing safeguards are in place to protect confidentiality within the guidelines established by the state.*

- *Data Integration – Driver information should be capable of linkage with other information sources and use common identifiers (e.g., driver license number, citation number, crash report number) where possible and permitted by law. Updates of driver information from courts should be accomplished through linkages, preferably electronic, to the driver history data.*

Status

Timeliness
The file is updated daily, but there is a backlog of entry of convictions.

Consistency
Data content appears to meet the requirements of the PDPS, CDLIS, and other applications of AAMVAnet and the recommendations of the Advisory.

Completeness
The driver file contains all of the elements for all drivers, but does not include convictions from previous states of record. The driver file contains conviction information received from the

courts. However, some courts withhold convictions and submit papers which are not usable. Some are unreadable, and some are purposely altered to prevent posting. The absence of histories from prior licensing states also makes the records incomplete.

Accuracy
Accuracy of the file information appears acceptable. However, the MIP (Minor in Possession) suspensions from courts do not come to the Motor Vehicle Division (MVD), and youthful drivers under MIP suspensions by courts appear to be valid license holders if the MVD driver file is queried.

Accessibility
The file information is available and accessible for authorized users consistent with the requirements of the Driver Privacy Protection Act. One court reported that query through the Criminal Justice Information Network (CJIN) is awkward and difficult—too cumbersome to be useful without maintaining daily familiarity with the process. Query is possible through the Internet for authorized users by accessing DiscoverMontana.com and processing a record check. Another indicated that a query to the National Crime Information Center (NCIC) produced more usable information (including histories recorded in other states).

Data Integration
The file does not link with any other file. The TEAM 261 effort will change this aspect with regard to the vehicle file.

Recommendations

- ❑ Become a member of the Statewide Traffic Records Coordinating Committee recommended in Section 4-A of this report to insure that MVD systems plans and upgrades are developed in coordination with all other highway safety information stakeholders.

- ❑ Establish the procedures to capture and maintain at least convictions for serious offenses from previous states of record.

- ❑ Assist with every effort to upgrade the driver records system and link with other components of a traffic records system, notably conviction information from the courts.

Section 2-E: Enforcement/Adjudication Information Quality

- ❑ *Timeliness - Information from an issued citation should be recorded on a statewide citation file as soon as the citation is filed in the court of jurisdiction. Information regarding the disposition of a citation should be entered on the citation file, as well as on the driver history record, immediately after adjudication by the courts.*

- ❑ *Consistency - All jurisdictions should use a uniform traffic citation form, and the information should be uniformly reported throughout all enforcement jurisdictions.*

- ❑ *Completeness - All citations issued should be recorded in a statewide citation file with all variables on the form completed including the violation type; the issuing enforcement agency; violation location; a cross reference to a crash report, if applicable; and BAC, where applicable, etc. All dispositions from all courts should be forwarded for entry on the driver history record.*

- ❑ *Accuracy - The state should employ quality control methods to ensure accurate and reliable information is reported on the citation form and updated on the citation and driver history files.*

- ❑ *Accessibility - The information should be readily and easily accessible to the principal users, particularly:*

  - ➢ *driver control personnel -- to take timely license sanction actions when appropriate.*
  - ➢ *law enforcement personnel -- for operational analysis and allocation of resources.*
  - ➢ *agencies with administrative oversight responsibilities related to the courts under its jurisdiction.*
  - ➢ *court officials -- to assess traffic case adjudication workload and activity.*

- ❑ *Data Integration - Citation information should be capable of linkage with other information sources, such as the crash and driver history data, and use common identifiers (e.g., crash report number, driver license number) where possible and permitted by law.*

Status

Timeliness
Currently the system for posting convictions to driver records is a paper transaction resulting in significant delays.

The judicial branch is implementing two case management systems which are the “Full Court” for Courts of Limited Jurisdiction, and Municipal Courts and the Justice Case Management System application (JCMS) for district courts.

Consistency
The citation used by law enforcement does contain data elements to identify the type of violation, date and time, the enforcement agency, court of jurisdiction, and final disposition. However, it is not a uniform citation.

Completeness
There is no statewide system that contains information about citations and their dispositions. Approximately 30 percent of citations are illegible and are returned to the issuing officer for correction. It is unknown what percentage of these citations are returned for adjudication.

Accuracy
Quality control procedures have not been established by the courts or the Motor Vehicle Division (MVD) to ensure that accurate and reliable information is reported.

Accessibility
Statewide information about violations and their dispositions is unavailable and not easily accessible because the data is located in so many different and separate databases. The most complete information available is from some municipal jurisdictions.

Data Integration
There is no integration of citation and conviction data with any other component of the traffic records system. Further there is no integration between the two planned case management systems.

Recommendation

- ❑ Design and implement a centralized statewide citation tracking system containing information about a citation from "cradle to grave." The system should contain information about all actions pertaining to all citations filed in all courts.

- ❑ Incorporate into the two planned case management systems the capability to share disposition data with the Montana Motor Vehicles Division and with each other.

- ❑ Develop a uniform set of data elements for citations that identifies at a minimum the type of violation, location, date and time, the enforcement agency, and court of jurisdiction.

2-F: Injury Surveillance Systems Information Quality

- *Timeliness - Ideally, the medical data on an injury should be available within an Injury Surveillance System (ISS) in the same time frame as data about the crash is available elsewhere within the traffic records system. However, the medical record on the individual may be incomplete initially because local protocols dictate that the medical record is only placed in the ISS when the patient leaves the health care system (e.g., discharged). Every effort should be made to integrate the ISS record with the crash data as soon as the medical records become available.*

- *Consistency - The reporting of EMS run data, hospital ED and admission data, trauma registry data, and long term health care data should be consistent with statewide formats which should follow national standards such as ICD-9-CM, as published by the Centers for Disease Control (CDC), the use of Injury Severity Scale standards, etc.*

- *Completeness - Although a trauma registry based ISS can provide a valuable source of ISS information, it cannot provide a complete picture of the injuries within a community or state. Where possible, the ISS should represent a consensus of all injuries that occur within the community. The ISS should, where feasible, be maintained at a state level but, at a minimum, should be maintained at the local level.*

- *Accuracy - The state should provide local heath care providers with training and support in the accurate coding of injuries and should foster the proper use of the resulting ISS data through education of data users in proper interpretation of these data.*

- *Accessibility - Recognizing the issues of patient and institutional confidentiality, there should be mechanisms in place to balance the demands for data accessibility from end users and the requirements of state and local privacy rules. At a minimum, the traffic safety and injury control communities should be able to access these data in summarized reports designed to address specific needs, including injury type and severity cost data. Ideally, the system should support the creation of "sanitized" extracts of the ISS data for use in research, problem identification, and program evaluation efforts.*

- *Data Integration - The true power of the ISS is recognized when the ISS data are integrated with other traffic records system data such as traffic crash, roadway, and crime data, as well as internally between EMS runs, hospital/ED admission data and discharge data. The ISS should be implemented in a fashion that supports this integration in as efficient a manner as possible. Often GIS systems provide the ideal platform for linkage and interpretation of the ISS and traditional traffic records system data. The use of common identifiers whenever possible within the traditional traffic records system and ISS data systems will facilitate this integration effort.*

Status

The only active component of the EMS/Trauma System is the Montana DPHHS Vital Statistics Section's collection of the state's Death Data. These data are available for analysis for injury prevention and traffic safety activities. Details pertaining to the timeliness of data reporting and availability of closed annual data files were not available during the interview process.

The timeliness, consistency, accessibility and other aspects of the EMS/Trauma System need to be developed in accordance with the guidelines of the Advisory and the recommendations that follow.

Recommendations

- ❑ Assure that the quality attributes defined in the Advisory are considered in the development of the planned EMS/Trauma systems.

- ❑ Become a member of the Traffic Records Coordinating Committee as recommended in Section 4-A of this report.

SECTION 3:
USES OF A TRAFFIC RECORD SYSTEM

The end purpose of a state's traffic records system is to establish a base of information and data that is available and useful to its customers, including operational personnel, program managers, analysts and researchers, policy makers, and the public. To be of optimal value to its customers, the system should provide for efficient flow of data to its users and be used in support of a wide range of activities. The traffic records system should support the needs of users at all levels of government (state & local), as well as the private sector and the public. The information demands from this wide range of professions and interests is driven by the need for operational data, as well as planning and evaluation information. Examples of uses are provided in the following sections.

3-A: Program Management and Evaluation

Fiscal limitations make it imperative that existing resources (time, staff, funding) be used efficiently. The safety programs at all levels should be accountable for demonstrating the impact of their countermeasures. This places demands on the traffic records system for information to monitor progress and evaluate the impact of countermeasure programs (e.g., monitoring of construction zone crashes during a project, and changes in alcohol-related injuries as a result of an enforcement project).

Status

The mission of the State Highway Traffic Safety Office (SHTSO) within the Montana Department of Transportation, which administers the Governor's Highway Safety program, is to reduce the number and severity of traffic crashes that result in deaths, injuries and economic losses from property damage. Each year the office is required to review and update its goals and objectives to accomplish the mission and to submit its Highway Safety Plan. Strategies are supposed to be developed and implemented as countermeasures to address identified traffic safety problems. The strategies become projects with performance measures that must be evaluated using traffic records data to study pre- and post-project conditions. Projects should be evaluated either administratively or for impact using traffic records data and other pertinent information. The SHTSO is responsible for identifying countermeasure programs that need to be instituted and administering the funding for such programs. At present, only a limited set of these activities is undertaken or possible.

The SHTSO does not have the authority, power or funding capability to direct the development and integration of data systems. It has limited resources for determining or selecting safety countermeasures. However, the office has the services of the individual who served as Montana's first Governor's Representative for Highway Safety and who has personally facilitated the majority of traffic records developments for several decades. For those projects already initiated, he monitors them quarterly and provides guidance and encouragement to the responsible personnel.

Reports are produced annually for crash data and problem identification. Other reports are produced in response to requests for information other than those oriented to road locations. The SHTSO works cooperatively with the office that uses the same database to respond to such inquiries.

Examples of requests to SHTSO would be crash summaries for a city or county. At present there is no document or other reference identifying what information is available or resources for obtaining data or information services.

There is no Statewide Traffic Records Coordinating Committee. A small committee meets to guide the emerging development of a new crash data system. It does not address other components of a comprehensive traffic records system.

Recommendations

- ❑ Establish a two-tiered Statewide Traffic Records Coordinating Committee: one to include a high level representation on the part of the agencies represented and the other a working group of stakeholders who have knowledge and expertise in their respective disciplines and a commitment to establishing a comprehensive traffic records system for Montana.

- ❑ Compile and publish a data resource list or catalog.

3-B: Research and Program Development

Data-driven planning decisions within the highway and traffic safety communities necessitates identification of trends and baseline measures. In order to identify safety problems and trends, the traffic records system should provide comparable data, over time, that can be easily linked and analyzed, and that data should be made available to a wide range of users (e.g., State Traffic Safety Offices for development of the safety plan, local police agencies for identification of enforcement zones, etc.).

Status

The Montana Department of Transportation (MDT) State Highway Traffic Safety Office (SHTSO) has excellent research and analytical capabilities on staff. The research analyst uses information from the crash file as its primary data source for highway safety planning, program development and in particular the publication of *Montana's Problem Identification.* Other data sources include seat belt usage surveys, the number of citations for violations of Montana's occupant protection laws and the DUI conviction information from the Department of Justice, Motor Vehicle Division. Data from other traffic record files (citation/conviction data, criminal justice data, and injury surveillance data) are generally unavailable.

Presently SHTSO uses the crash file to respond to a variety of requests ranging from the very simple to the complex requiring the application of sophisticated analytical techniques. It is unfortunate that there is no integration of traffic records files to produce broader data sets for analysis which prevents the staff skills from being used to their full potential. In turn, this limits the range of traffic safety issues that might otherwise be included in the state's highway safety planning and program development process.

Recommendations

- Expand and improve access to data sources in addition to the crash file (including citation and conviction data from the judicial branch) that can be used to establish a broad range of initiatives and policies relating to Montana's traffic safety problems.

- Design and implement a statewide, integrated traffic records system consisting of the various files pertaining to crashes, citations and their dispositions, drivers, vehicles, roadways and emergency medical services provided to crash victims.

- Create sanitized files of highway safety data for placement on the Worldwide Web. Develop an on-line query tool to allow public and private agencies to obtain statistics for highway safety information.

3-C: Policy Development

Informed decision making to support highway and traffic safety policy decisions is only possible with timely, accurate, and accessible information. Traffic records systems data should also be available to promptly respond to legislative and executive requests.

Status

The stated policy of the Montana Department of Transportation and the State Highway Traffic Safety Office (SHTSO) is evident in the Department's publication *Traffic Safety Problem Identification***,** the information obtained through this assessment process and the Director's initiative to establish a high level committee to develop a Comprehensive Highway Safety Plan. But what is not stated is the importance of a highway safety information system as a foundation for setting traffic safety policy. The need for a traffic records system is an important issue for policy direction and is critical for effective planning, development and administration of highway safety programs.

Recommendation

- ❑ Target the development of an integrated highway safety information system as a prime goal of the Comprehensive Highway Safety Plan.
- ❑ Involve the Traffic Records Coordinating Committee in the development of the comprehensive plan.
- ❑ Establish a policy to assure highway safety data is available and used to develop and evaluate highway safety programs.

3-D: Private Sector and Public Requests

The traffic records system, through a combination of information sources, technical staff, and public records access policies, should be capable of producing scheduled and ad hoc reports. The media, advocacy groups, safety organizations, the general public, and internal (state and local) users have demands for regular reporting as well as for unforeseen ad hoc reports and access to data extracts. There should be a mechanism in place for establishing what data should be available to public and private sector users, within the laws protecting individual privacy and proprietary information.

Status

Montana's Highway Patrol (MHP) is the state crash record data repository. A sanitized file is made available to Department of Transportation (MDT) weekly and annually to the National Highway Traffic Safety Administration. There are barriers that can be prohibitive to data users: the omission of driver descriptive information, vehicle identification number (VIN), etc. Crash reports are manually entered at this time and there are no formal processes for data validation or edits checks to assist with accuracy and data quality.

On a positive note, MDT completes the majority of ad hoc data request with referrals from the MHP. Access to the MDT crash data information is available in an aggregate data file that is utilized for targeted issues traffic safety projects. Data partners (Safe Communities, SAFE KIDS Coalitions, and Critical Illness and Trauma Foundation) contact or are referred to SHTSO.

Critical Illness and Trauma Foundation is a collaborator and data sharing partner that has produced and published reports plus continuing education computer disc for EMS providers. The Safe Communities and SAFE KIDS Coalition are injury prevention and injury education resource partners in collaboration with the Montana Department of Transportation. There are 17 Safe Community Coalitions in a 31 county catchment area. A newsletter was published in 2000 that provided information on Child Safety activities and injury statistics, graduated licensing FACT sheet and coalition activities. A packet of reports is provided to Safe Community and SAFE KIDS coalition partners and state trauma centers that contains traffic safety and injury prevention statistical reports.

In addition, a 2004 Traffic Safety Problem Identification Report was published that provides statistical reports on traffic safety injury and mortality information. The Montana Highway Patrol published a 2002 Annual Report that illustrates traffic safety and injury statistics in each region of Montana. Access to the electronic images of individual crash reports (or to a batch of reports meeting a specific selection criterion) is not currently available at this time.

A Crash Outcome Data Evaluation System (CODES) project was completed in 1992 with the assistance of the University of Utah, the Montana Department of Justice and Department of Transportation. This was a targeted area project for the Billings area. The project coordinator of the former CODES project is enlisting partners to assist with a new traffic safety project that will include the Level II trauma centers in Billings area and the hospitals in the surrounding area. Crash files are provided to the coordinator in raw data format and includes demographic identifiable data. An Internal Review Board approval and Attorney General Consent provided

the avenue for the CODES project coordinator to gain access to a complete crash file that included all personal identifiable and demographic data. The injury prevention activities of advocacy groups are critical partners for identifying causes and reduction of crash incidents that has a huge impact on Montana's citizens and state infrastructure.

The need for combining data from a variety of sources (crash, citation, conviction, health, etc.) for analysis is not being met now. The value of the traffic records system to the State can only grow with increased use. Increased value is likely to translate into more resources for data collection and data improvement.

R**ecommendations**

- Assign Montana's SHTSO the task of reviewing the accessibility of all components of the traffic records system and work with agencies to open their records for authorized users. Where data access policies exist, the committee should encourage agencies to comply. Where such policies do not exist, the committee should help (if only informally) to ensure that access is granted for analytic purposes, and help to set up an appropriate review and approval process.

- Designate SHTSO as the primary source of traffic records data analysis in the State.

- Develop an online query tool for users to select and view crash data files of interest. This should be accomplished through a secure, password protected electronic web based access application that only authorized users can view crash data online.

- Encourage agencies responsible for citation, conviction, and other data sets to make sanitized data extracts available for use by the traffic safety community in Montana. At a minimum, MDT should be given access to the relevant records for use in problem identification and program evaluation.

SECTION 4:
MANAGEMENT INITIATIVES

The development and management of safety programs should be a systematic process with the goal of reducing the number and severity of traffic crashes. This process should ensure that all opportunities to improve highway safety are identified, considered, and implemented. All implemented highway safety activities should be evaluated. The evaluation results should be used to improve and facilitate the selection and implementation of the most efficient and effective highway safety strategies and programs. This process can be achieved through the following initiatives.

4-A: Coordination

There should be a statewide traffic records coordinating committee (STRCC) with representation of the interests from all levels of public and private sector traffic safety stakeholders, as well as the wide range of disciplines that have need for traffic safety information. This committee should be formed within state policy and legal guidelines and institutionalized and empowered with the responsibility (through formal agreements) to recommend policy on traffic records. The state should provide a mechanism to ensure support for the administration and continuance of the coordinating committee, as well as technical guidelines. The STRCC should be responsible for adopting requirements for file structure and data integration, assessing capabilities and resources, establishing goals for improving the traffic records system, evaluating the system, developing cooperation and support from stakeholders, and ensuring that high quality and timely data will be available for all users.

Status

There is no traffic records coordination at the present time to provide the type of oversight, support, and guidance necessary to achieve a fully integrated statewide traffic records system.

There has been a working group in existence since 1996 whose primary focus has been improving the motor vehicle crash information system. The standing members include individuals from the Highway Patrol Division, Accident Records Management Section, and Information Technology Division with the Department of Justice; and the Safety Management Office, State Highway Traffic Safety Office (SHTSO) and Tribal Affairs Coordinator from MDT. Because the representatives are from a limited number of State agencies and have a limited authority, this working group has not been able to develop and address the need for a comprehensive and integrated traffic records system.

Additionally there are two MDT committees with interest in traffic safety data: Director's Safety Committee and Standing Committee on Data Administration. There is no coordination between these committees or with the working group referenced above.

Recommendations

- ❑ Create a two-tiered Traffic Records Coordinating Committee (TRCC). Obtain two levels of representation from each organization maintaining any component of the traffic records system: an executive level capable of committing resources and a working level with knowledge of the operations, requirements, and functionality of the component(s).

- ❑ Merge the membership and activities of the several existing committees into the working level TRCC as appropriate and practical.

- ❑ Assign TRCC the task of developing a data warehouse to serve as the inventory and repository of traffic records information. A first step should be to list the data sources and contact personnel for each major Traffic Records System component.

- Expand the representation and formalize the membership of the TRCC to include data collectors, data managers and data users from all stakeholders. This additional representation will insure that data needs for all stakeholders are considered when improving traffic records systems.

- Define the mission of the TRCC to include oversight, support, and guidance of all traffic records activities in the state.

- Charge the TRCC with developing a Strategic Plan for Traffic Records. This information should be used to prioritize projects.

- Develop a data dictionary for data providers and data user sources within the Traffic Records System in order to cross-reference all data fields that could be used for data sharing and linkages.

- Designate a qualified project manager on the SHTSO staff to be the traffic records coordinator to provide staff and administrative support for the TRCC.

4-B: Strategic Planning

The traffic records system should be operated in a fashion that supports the traffic safety planning process. The planning process should be driven by a traffic records system strategic plan which helps state and local data owners support the overall safety program needs within the state. This plan should address such activities as:

- *A continuous review and assessment of the application of new technology in all phases of its data operations: collection, processing, retrieval, and analyses. The strategic plan should address the adoption and integration of new technology, as such change is feasible and desirable in improving the traffic records system.*
- *Promotion of local data systems that are responsive to the needs of local stakeholders.*
- *Identification and promotion of integration among state and local data systems to eliminate duplication of data and to help assure current, reliable information.*
- *Data integration to provide linked data between components of the traffic records system (e.g., Crash Outcome Data Evaluation System [CODES]).*
- *Coordination of the federal systems (e.g., FARS, NDR, CDLIS) with the state records systems.*
- *Recognition and incorporation, where feasible, of uniform data elements and definitions and design standards in accordance with national standards and guidelines (e.g., MMUCC, ANSI-D20.1, ANSI-D16.1, NGA, EMS Data Dictionary, etc.).*
- *Changing state and federal requirements.*
- *Capture of program baseline, performance, and evaluation data in response to changing safety program initiatives.*
- *Establishment and updating of countermeasure impacts (e.g., crash reduction factors used in project selection and evaluation).*

The strategic plan should be endorsed by, and continually updated through the activities of, the statewide traffic records coordinating committee.

Status

A Traffic Records Strategic Plan was prepared for the State of Montana in 1995. As a result of the plan a new crash system was implemented in 1996. Other recommendations of the plan were not acted upon because there was no mechanism to continuously update the plan. It is now considered out of date and the recommendations obsolete.

While the planning was inclusive of all traffic records files of highway safety information and the automated systems that capture and provide the data for this enterprise, it could not be considered

strategic or inclusive of the stakeholders with a vested interest in highway safety. There was no buy-in from agencies other than the sponsoring agency[1] and did not include local agencies.

Recently the Director of MDT established a high-level committee to develop a statewide Comprehensive Highway Safety Plan to be co-chaired by the State Highway Traffic Safety Office and theRail, Transit and Planning Division - MDT. This action was prompted by a national initiative but can be the catalyst for strategic planning for highway safety information for all state safety agencies at all levels.

The MDT has conducted highway safety problem identification with success for roadway problems and safety issues required through the annual Highway Safety planning process. However, the lack of information on injury prevention and EMS/Trauma data, traffic citation and disposition, and driver demographic and behavior information limits the effectiveness of the problem identification and program development.

All improvements to any state's traffic records system and environment are dependent on multi-agency coordination and support with a defined set of tasks that reflect the commitments of those who will undertake the tasks. The path to accomplishing the tasks always starts with the establishment of a Traffic Records Coordinating Committee (TRCC) and the development of a Strategic Plan.

Recommendations

- ❑ Task the TRCC (as recommended in Section 4-A of this report) with the development of a Traffic Records Strategic Plan. This plan should:

  (1) Specify the requirements for and from each component of the traffic records system: crashes, citations, convictions, roads and streets, drivers, vehicles, and EMS/Trauma. Derive this information from the TRCC task level personnel, rather than from any external source.
  (2) Identify the goals for improvements for each of the traffic records system components.
  (3) Prioritize the goals, and recommend achievable dates for implementing each.
  (4) Secure commitments to the goals and the task schedules. Identify known and foreseen obstacles to each task that is questionable to be accomplished by the time desired. This includes identification of funding problems and possible solutions. Identify to the extent possible the costs of failure to accomplish each required task. Complete benefit/cost analyses as needed.
  (5) Identify the procedures for tracking progress and modifying the plan as tasks are either achieved, revised or dropped.

- ❑ Bring the influence of the Director of Transportation to bear on the establishment of a broad based safety coalition to achieve the goals of the impending comprehensive highway safety plan, a component of which should be the Traffic Records Strategic Plan.

[1] The sponsoring agency at the time was the Highway Traffic Safety Division of the Department of Justice now in the Department of Transportation.

4-C: Training and Staff Capabilities

Throughout the data gathering, interpretation, and dissemination process, there is a need for training and technical support. A training needs analysis should be conducted for those highway safety professionals involved in program development, management, and evaluation. Training should be provided to fulfill the needs identified in this analysis. There should also be an ongoing outreach program for users of traffic safety program information to assure that all users are aware of what is available and how to use the information to fulfill their needs.

Status

The State's Highway Traffic Safety Office (SHTSO) has not completed a needs assessment that evaluates the traffic safety information needs of all highway safety stakeholders. The assessments can provide information related to data collection processes, data completeness and data accuracy for utilization in their prospective systems improvement. These assessments will assist in the collection of accurate data for comprehensive analysis and statistical research. It was evident that the State has strong analytical and data processing skills. However, there is a critical need for the SHTSO to provide leadership, mentorship and direction in a multi-agency knowledge base needs assessment that can be used to provide technical support to their multi-agency partners. This will provide the foundation for building a cooperative partnership with mutual gains in data quality, quantity and access that will lead to a mature and well functioning traffic safety and injury prevention network in Montana.

A critical part of this process can be found in a Traffic Records Coordinator that possesses a diverse set of skills in project management, outreach to gain the support and participation of their multi-agency partners, and facilitation for improved relationships that are a crucial aspect of successful highway safety initiatives and projects.

Recommendations

- ❑ Conduct an analysis of training needs and develop and implement a training plan.
- ❑ Assign the Traffic Records Coordinating Committee as recommended in Section 4-A of this report the task of conducting this training needs assessment.

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GLOSSARY OF TERMS AND ACRONYMS

AADT	Average Annual Daily Traffic
AAMVANet	American Association of Motor Vehicle Administrators Telecommunications Network
ADT	Average Daily Traffic
ANSI	American National Standards Institute
ANSI D16.1	Manual on Classification of Motor Vehicle Traffic Accidents
ANSI D20.1	Data Element Dictionary for Traffic Record Systems
BAC	Blood Alcohol Concentration
CCSRS	Comprehensive Computerized Safety Record-keeping System
CDC	Centers for Disease Control
CDLIS	Commercial Driver License Information System
CODES	Crash Outcome Data Evaluation System
ED	Emergency Department
EMS	Emergency Medical Services
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
GIS	Geographic Information Systems
GPS	Global Positioning System
ICD-9-CM	International Classification of Diseases, Volume 9, Clinical Modification
ISS	Injury Surveillance Systems
MMUCC	Model Minimum Uniform Crash Criteria
NDR	National Driver Register
NGA	National Governors' Association
NHTSA	National Highway Traffic Safety Administration
NSC	National Safety Council
STRCC	Statewide Traffic Records Coordinating Committee
TEA-21	Transportation Equity Act for the 21st Century
TRB	Transportation Research Board
VIN	Vehicle Identification Number
VMT	Vehicle Miles Traveled

TEAM CREDENTIALS

LARRY C. HOLESTINE, MAJOR (Retired)

26254 Highway 392
Gill, CO 80624
Tel. (970) 395-2369
E-mail: lholestine@data-nexus.com

Director of Public Safety Services

PROFESSIONAL EXPERIENCE

- ❑ Director of Public Safety Services, Data Nexus, Inc.
- ❑ Law Enforcement Liaison, NHTSA Region VIII
- ❑ Commander, District III Colorado State Patrol, Retired
- ❑ Coordinator/Instructor, Colorado Law Enforcement Training Academy and Colorado State Patrol Academy
- ❑ Instructor, Colorado Institute of Law Enforcement Training, Colorado State University
- ❑ Law Enforcement Experience - 30 years

ORGANIZATIONS/AFFILIATIONS

- ❑ Member, Transportation Research Board, National Academy of Sciences, Law Enforcement Committee
- ❑ Chair, Association of Transportation Safety Information Professionals, National Safety Council
- ❑ Member, ANSI D-16 Committee on Motor Vehicle Accident Classification
- ❑ Member, MMUCC Committee on Motor Vehicle Accident Crash Criteria
- ❑ Steering Committee and Chair of Law Enforcement Section, Colorado Safety Management System
- ❑ Member, Colorado State Traffic Records Advisory Committee
- ❑ Member, National Agenda Committee for Highway Information Systems

- ❑ USDOT, NHTSA, Traffic Records Assessment Team Member, Iowa, Nebraska, Louisiana, Kansas, Arizona, South Carolina, New Mexico, Wisconsin, North Dakota, Idaho, Connecticut, Illinois, Oregon, Delaware, New Jersey, Mississippi, San Carlos Indian Nation, and the Menominee Indian Nation.

LESLIE NELSON-TAULLIE
Colorado State Patrol (CSP)
700 Kipling Street
Lakewood, Co 80215

Telephone Number: 303-239-4542
Fax Number: 303-239-4673
E-mail Address: Leslie.nelson@cdps.state.co.us

Title: Manager Grants and Analysis Unit

The Grants and Analysis Section provides technical guidance, information, and recommendations primarily to the Chief's Office of the Colorado State Patrol. The purpose is to:

- Secure and manage federal and state grants awards.
- Ensure the validity of data contained in the CSP information systems.
- Establish manpower and resource needs.
- Provide professional analysis on existing, pilot, and potential CSP programs in order to create efficiencies and establish sound performance metrics.
- Respond to requests for information from CSP members, governmental agencies, and the general public.
- Foster partnerships with critical internal and external stakeholders.
- Serve as a senior IT planning liaison responsible for development of integrated approaches to technological issues.

Experience

She is the Grants Administrator for the Colorado State Patrol and is responsible for advocating the CSP's position with the federal and state partners. She participates in project and contract negotiations with the oversight agencies. She represents the CSP on inter-agency initiates such as the accident reporting and E-citation/conviction.

She has twenty-two years experience in the area of data collection, data management, and data analysis. Specific areas of expertise are crash data, citation/conviction data, and crime data.

Organizations

- Colorado State Traffic Records Committee (STRAC)

- Association of Transportation Safety Information Professionals (past Executive Board member)

LANGSTON A. (LANG) SPELL

1883 Tower Lakes Blvd.
Lake Wales, FL 33859-4807
E-mail: lang33859@peoplepc.com

Independent Consultant

Professional Experience

Mr. Spell entered his professional career in traffic records systems and data exchange 45 years ago. He is nationally recognized for his work in development of traffic records systems, and especially interchange (NDR and CDL) of information amongst various users and the development and promulgation of data standards in information processing.

He developed the AAMVA Violations Exchange Code or "ANSI" code while employed with AAMVA and later served as subcommittee chairman for the ANSI D-20 Standard, A States Model Motorist Data Base, while employed with the National Highway Traffic Safety Administration. He was involved in the design and developmental efforts for the Commercial Driver Licensing Information System (CDLIS) and its AAMVAnet environment.

History

1992 – present	Consultant
1977 – 1992	Senior Traffic Records Analyst National ConServ, Inc. (but 1980 to 1983: Independent Consultant)
1974 – 1977	Vice President GENASYS (Systems Division) (now Keane, Inc.)
1968 – 1974	Chief, Information Systems, NHTSA, US Department of Transportation
1966 – 1968	Director of Data Systems for the AAMVA
1958 – 1966	Staff Specialist in MVR for Retail Credit Co. (now Equifax) Atlanta, GA

Memberships in Professional Associations

- Traffic Records Committee, Transportation Research Board
- American Nation Standards Institute, D-16, D-20, and X3L8 Committees

- Executive Board, Traffic Records Committee, National Safety Council
- Society of Automotive Engineers Committee on Standardization of Vehicle Identification Numbers

Education

Boston University ..... S.T.B., 1956
Duke University ..... A.B., 1953

CAROL WRIGHT

851 Sand Hills Rd., Unit C
Red Rock, TX 78662
Tel. 512-458-7266
E-mail: carol.wright@tdh.state.tx.us

Professional Experience

2000 – present Texas Department of Health Austin, Texas
Injury Epidemiology & Surveillance
Program Administrator II EMS/Trauma Registry

- Responsible for Grant resource and oversight
- Liaison to legislative staff advocacy groups
- Supervise registry staff
- Program Budget, schedules, travel coordination
- Development of new EMS/Trauma Registry System (TRAC-IT)
  Review RFP, JAD/JRP collaboration
- Data schema analysis
- Development of EMS & Trauma Data Dictionaries
- Staff stakeholder and town hall meetings
- Facilitate EMS provider & trauma registry workgroup
- Staff support and liaison for Governor's EMS & Trauma Advisory Committee
- Resource for EMS/Trauma development and registry issues
- Clinical and technical resource for EMS/Trauma Systems Development

1997 – 2000 Texas Department of Health Austin, Texas
Bureau of Emergency Management
Trauma Designation Specialist

- Survey Trauma Facilities Level 1 – Level 4
- Reviewed designation applications & forward recommendations to Bureau Chief
- Developed revised designation applications
- Developed Quality Improvement Process
- Developed Pediatric Categorization applications and categorization process
- Trained surveyors
- Staff support for Governors Advisory Council
- Liaison with Center For Rural Initiatives and EMS/Trauma Registry
- Presenter at Texas EMS Conference 1998 & 1999
- Developed Grant RFP, grant quarterly & annual reports

1995 - 1997 Memorial Hospital of Gonzales Gonzales Texas
Trauma Coordinator/Nurse Educator/ ED Director

- Developed Trauma Program
- Developed Trauma Quality Improvement Program
- Developed Trauma Designation & ED policies and procedures

- Developed and taught orientation, advanced cardiac life support, trauma nurse core course prep, emergency nurse pediatric prep, oncology
- Developed and taught EKG course, dosage calculation course, arterial blood gas course
- Facilitated trauma administrative meetings
- Supervised staff
- Developed and presented statistical reports to hospital Medical Executive Committee and Hospital Board of Directors
- Resource and mentorship of Area "P" trauma coordinators

1994 – 1995 Smithville Regional Hospital Smithville. Texas

Director Quality improvement/ Infection Control/ E.D.

- Supervised Staff
- Budget/Staffing/Staff Training
- Developed and presented statistical reports to hospital Medical Executive Committee and Hospital Board of Directors
- Developed Quality Improvement Program for hospital and three rural clinics
- Developed Infection Control Program for hospital and three rural clinics

1988 – 1994 Medical Center Hospital Odessa Odessa, Texas

Assistant DON Skilled Nursing Facility/Patient Care Coordinator/ED nurse/ Charge nurse/ Critical Care nurse

- Started employment as an LVN and obtained RN
- Supervised staff
- Budget
- Trained nurses
- Developed and presented statistical reports
- Liaison to Administrator
- Facilitated executive meetings
- Critical and emergency patient care (ICU/CCU/ED)
- Oncology nursing

Education

Graduate School Nursing/Health Administration currently enrolled

Odessa College Nursing Degree –ADN Registered Nurse 1989

Certified Emergency Nurse

Professional Affiliations

- Texas Trauma Coordinators Forum
- Emergency Nurses Association
- National Trauma Society
- Emergency Pediatric Nurse Association

JOHN J. ZOGBY, PRESIDENT

Transportation Safety Management Systems
1227 North High Street
Duncannon, PA 17020
Voice: (717) 834-5363
Email: jzogby@paonline.com

Summary Of Experience

Mr. Zogby has over 40 years experience in highway safety engineering and management and motor vehicle and driver licensing administration.
Mr. Zogby's transportation career began in the Bureau of Traffic Engineering in the Pennsylvania Department of Highways, where he was responsible for statewide application of highway signs and markings. He was instrumental in developing the State's first automated accident record system in 1966. In the late 1960's, he helped initiate and was project director for the statewide safety improvement program and the State's in-depth accident investigation function.
Mr. Zogby worked in the private sector in traffic safety research for several years before returning to public service as the Director of the Bureau of Accident Analysis in the Pennsylvania Department of Transportation (PennDOT). He was appointed Deputy Secretary of Transportation for Safety Administration in February of 1979, a position he held for 13 years, until his retirement from public service in December 1991.
Since his retirement from State government, Mr. Zogby has been engaged as a consultant on management and policy issues for federal, State and local government agencies in the area of transportation safety and motor vehicle/driver licensing services.

Professional and Business Experience

Recently Completed contracts:

- Subcontract with iTRANS Consulting Inc. on NCHRP project 17-18 (05), Integrated Management Process to Reduce Highway Injuries and Fatalities Statewide for the Transportation Research Board.

- Contract with the National Academy of Sciences (NAS) to provide AASHTO Strategic Highway Safety Plan - Case Studies (17-18(06)) for the Transportation Research Board.

Subcontractor with ISG, a systems integration consulting company, conducting a reengineering contract with the Pennsylvania Department of Transportation in the area of motor vehicle processes.

Subcontractor with the Pennsylvania State University to research the impact of an education provision in a State law governing novice drivers.

- Conducted a three-week course on safety management for the Ministry of Communications in the Kingdom of Saudi Arabia.

Subcontractor with a Moroccan Engineering firm to develop a national highway safety plan for the Country of Morocco.

Completed a study for the State of Mississippi, Department of Public Safety, to develop a Strategic Plan for Highway Safety Information.

Contracted by the Federal Highway Administration, Office of Motor Carrier Safety, to help in the final implementation phase of the Commercial Driver License (CDL) program.

Consulted with several States in assessing their Traffic Records capabilities to address highway safety program management needs. In addition, completed Traffic Records Assessments for three Indian Nations in Arizona.

Project director and principal instructor for a Federal Highway Administration (FHWA) contract to develop, implement, and instruct a training program for the Highway Safety Management System.

Professional Societies And National Committees

Member Institute of Transportation Engineers.

Member of the Transportation Research Board (TRB) Committee on Safety Management.

Chairs a TRB task force on Safety Management status.

Member of the National Safety Council's Association of Transportation Safety Information Professionals.

Past Chair of the National Safety Council's Traffic Records Committee.

Past President of Region 1 of the American Association of Motor Vehicle Administrators.

Chaired the Governing Board of the International Registration Plan.

Chaired a subcommittee of the NGA Working Group on State Motor Carrier Taxation and Regulation.

Completed a six-year tenure as Chair of the TRB committee on Planning and Administration for Transportation Safety.

Community

- ❑ Chairman, Duncannon Borough Planning Commission
- ❑ Executive Board, Perry County Economic Development Corporation
- ❑ President, Duncannon Area Revitalization, Inc.
- ❑ Board Member, Tri-County Regional Planning Commission
- ❑ Task Force Member, Cumberland/Perry Counties Safety & Congestion Management Study
- ❑ Pastoral Associate, St. Bernadette Church, Duncannon, PA

Education

B.S., Economics, Villanova University

MPA, Penn State University